Abstract 036 Figure 1 MACE events over 5-year follow-up period.

Methods 4252 consecutive patients underwent PCI with either paclitaxel-eluting (PES) or sirolimus-eluting stents (SES) at a single centre (October 2003–January 2011). Indications for PCI included stable and unstable angina. Left main and vein graft lesions were excluded. Demographic and procedural data were collected at the time of intervention. All cause mortality data were obtained from the Office of National Statistics via the BCIS/CCAD national audit out to a median of 4.0 years (95% CI 2.4 to 5.6 years). Primary end point was major adverse cardiac events (MACE) a composite of all cause mortality, myocardial infarction and target vessel revascularisation (TVR).

Results There were 1592 (37%) patients treated with SES and 2660 (63%) patients treated with PES. Baseline demographic, angiographic, and procedural characteristics were similar between patients treated with PES and those treated with SES. At 5 years, there were no statistical differences in MACE between the stent types (SES 15.9% 95% CI 12.7 to 19.4 vs PES: 16.5% 95% CI 12.6 to 20.3, $p=0.9$). This consisted of similar rates of all-cause mortality (10.1% vs 9.3%, $p=0.4$), TVR (5.3% vs 6.4%, $p=0.4$), and stent thrombosis (2% vs 1.8%, $p=0.5$). In diabetic patients ($n=1172$ (28%)), there was a trend towards lower MACE favouring PES but this did not reach statistical significance (19% vs 24%, $p=0.16$). On univariate and subsequent multivariate analysis there was no benefit from either stent type.

Abstract 036 Figure 2 MACE events in DM patients over 5-year follow-up period.

Conclusion This “real-world” observational analysis of DES-treated patients, PES and SES demonstrates similar overall safety and efficacy over a 5-year follow-up period with low rates of TVR.

037 DRUG ELUTING STENTS (DES) OFFER BENEFIT OVER BARE METAL STENTS (BMS) INSERTED DURING VEIN GRAFT PCI

doi:10.1136/heartjnl-2012-301877b.37

O P Guttman,* D Jones, K Rathod, R Weerackody, A Jain, C Knight, A Mathur, A Wrang. *Barts and The London NHS Trust, The London Chest Hospital, UK*

Background Research trials have shown improved short-term outcome with DES over BMS in Saphenous vein graft (SVG) PCI, primarily by reducing target vessel revascularisation (TVR) for in-stent Restenosis (ISR). Because of the high event rates in these patients it is not clear if these benefits are maintained long term. We compared the outcomes in patients undergoing SVG stent implantation treated with DES or BMS, over a prolonged follow-up period.

Methods Clinical information was analysed from a prospective database on 512 patients who underwent PCI for SVG lesions between 2003 and 2010 at a London centre. Information was entered at the time of procedure and outcome assessed by all-cause mortality information provided by the Office of National Statistics via the BCIS/CCAD national audit. The primary end point used was major adverse cardiac events (MACE), defined as death, myocardial infarction (MI), stroke and target vessel revascularisation (TVR).

Results There were 293 patients who underwent PCI with BMS and 219 treated with DES. The mean follow-up period was 1086 ± 418 days for the BMS group and 1046 ± 390 days for the DES group. Baseline characteristics were the same between the groups other than diabetes, which was more common in the DES treated group (24% vs 15%, $p<0.0001$). Per lesion there was a smaller average stent width used in the DES group (3.2 ± 0.05 mm vs 3.7 ± 0.06 mm, $p=0.0001$) however, there was no significant difference between the stent length (20.1 ± 0.60 mm vs 19.0 ± 0.54 mm, $p=0.20$) or number of stents used (1.66 vs 1.68 , $p=0.56$). There was similar use of distal protection devices (39.2% vs 48.3%, $p=0.08$) and procedural success (93.7% vs 93.0%, $p=0.78$) in the two groups. There was a significant difference in MACE between the two groups in favour of DES (30.2% BMS vs 18.9% DES group [$p=0.04$] over the 5-year follow-up. MACE was driven by in-stent restenosis in both groups and the difference between groups was due to increased TVR

Abstract 037 Figure 1 MACE events over 5-year follow-up.

in the BMS group. There was no difference in death, MI or stroke between the stent types. Age-adjusted Cox analysis showed an decrease in the hazard of events for DES compared to BMS (HR 0.60, 95% CIs 0.03 to 0.69) and this was maintained with multiple adjustment (HR 0.52, 95% CIs 0.05 to 0.89).

Conclusions In our cohort of patients who had PCI for treatment of SVG disease the use of DES resulted in lower MACE rate compared to BMS over a 5-year follow-up.

038 DRUG ELUTING STENT IMPLANTATION IS ASSOCIATED WITH LOWER MACE RATES THAN BARE METAL STENT IMPLANTATION IN PRIMARY PCI FOR ST ELEVATION MYOCARDIAL INFARCTION

doi:10.1136/heartjnl-2012-301877b.38

D I Bromage,* K S Rathod, D A Jones, A Jain, C Knight, A Mathur, A Wragg. *Barts and The London NHS Trust, UK*

Introduction Drug-eluting stent (DES) implantation during the treatment of ST-elevation myocardial infarction (STEMI) by primary percutaneous coronary intervention (PCI) is controversial due to concerns regarding increased risk of stent thrombosis. We therefore studied long-term outcomes after DES vs bare metal stent (BMS) implantation during primary PCI.

Abstract 038 Table 1

Characteristic	DES (n=442)	BMS (n=1728)	p Value
Mean age	46.5±41.3	53.7±34.7	<0.0001
Diabetes	124 (27.3%)	272 (15.6%)	<0.0001
Previous MI	76 (17.1%)	193 (11.4%)	0.001
Previous CABG	20 (4.4%)	35 (2.1%)	0.001
Previous PCI	84 (18.6%)	127 (7.5%)	<0.0001
Hypercholesterolaemia	147 (45.4%)	498 (38.9%)	0.033
Multi-vessel disease	231 (62.6%)	666 (50.1%)	<0.0001
Mean stent length (mm)	22.3±5.1	20.1±5.4	<0.0001
Mean stent width (mm)	3.4±0.4	31.9±0.9	<0.0001

Abstract 038 Figure 1 MACE in DES vs BMS implantation in primary PCI.

Methods Between October 2003 and September 2010, 2170 consecutive patients undergoing primary PCI for STEMI at a single high-volume London centre were included. The primary end point was major adverse cardiac events (MACE), defined as death, myocardial infarction (MI), stroke and target vessel revascularisation (TVR). Median follow-up was 2 years (IQR 0.7–3.6 years).

Results 442 patients underwent PCI with DES and 1728 with BMS. Differences in baseline characteristics are outlined in Abstract 038 table 1. There was a significant difference in MACE between the groups in favour of DES (3.9% vs 7.7%, $p=0.006$) (Abstract 038 figure 1). Age-adjusted Cox analysis demonstrated the decrease in MACE in patients undergoing DES compared to BMS implantation was maintained with multiple adjustment (HR 0.60 [95% CI 0.37 to 0.96]). In addition, after regression adjustment incorporating a propensity score (age, stent length, stent width, gender, ethnicity, previous MI, PCI or coronary artery bypass grafting (CABG), diabetes, hypertension, hypercholesterolaemia, smoking status, presence or absence of shock, and ejection fraction) into the hazards model as a covariate, this difference persisted (HR 0.61 [95% CI 0.37 to 0.96]).

Conclusion DES implantation is associated with lower MACE rates than BMS implantation in primary PCI for STEMI.

039 OUTCOMES FOLLOWING UNPROTECTED LEFT MAIN STENTING WITH FIRST VS SECOND GENERATION DRUG-ELUTING STENTS: THE MILAN EXPERIENCE

doi:10.1136/heartjnl-2012-301877b.39

G L Buchanan,* C Bernelli, A Ielasi, M Montorfano, A Latib, F Figini, M Slavich, F M Sacco, I Franzoni, M Carlino, S Ferrarello, A Colombo. *San Raffaele Scientific Institute, Italy*

Background Second-generation drug-eluting stents (DES) are said to be more safe and effective. Our aim was to assess clinical outcomes following first- vs second-generation DES implantation in patients undergoing unprotected left main (ULMCA) percutaneous coronary intervention.

Methods All consecutive patients from our single-center prospective registry treated for ULMCA with DES implantation from January 2005 to November 2010 were analysed. The study endpoint was major adverse cardiac event (MACE) defined as all-cause mortality, target lesion revascularisation (TLR), and target vessel revascularisation (TVR) at clinical follow-up.

Results A total of 179 patients were included: mean age 66.5 ± 12.7 years and 83.2% were male with mean left ventricular ejection fraction $54.6 \pm 8.4\%$ and SYNTAX score 23.3 ± 31.2 . The median follow-up was 705.5 days (IQR 339.8–1168.0). First-generation DES were used in 53.1% (of which 51.6% were sirolimus and paclitaxel 48.4%) and 46.9% had second-generation DES (85.7% everolimus; 11.9% zotarolimus; 2.4% biolimus). Interestingly, there were more patients with diabetes treated with first-generation (30.5% vs 14.3%; $p=0.023$). Regarding the procedure, intravascular ultrasound guidance was similar between first and second-generation (respectively 47.4% vs 59.5%; $p=0.130$). There were more patients in the first-generation group with distal ULMCA disease (82.1% vs 67.9%; $p=0.064$). At follow-up, there was a significant difference in MACE favouring second-generation (30.5% vs 19.0%; $p=0.047$), most related to a reduction in the TLR (13.7% vs 4.8%; $p=0.026$) and TVR (24.2% vs 14.3%; $p=0.031$). However, there was no difference in all-cause mortality (10.5% vs 7.1%; $p=0.138$) with a trend for increased cardiovascular mortality in those treated by first-generation (8.4% vs 2.4%; $p=0.082$). Moreover, there was no difference in definite/probable stent thromboses (5.3% vs 2.4%; $p=0.114$).

Conclusions Second-generation DES have improved results with regards to MACE at mid-term follow-up, perhaps secondary to patient selection. This needs to be confirmed at longer-term follow-up.